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Notes on the Zoology of Newfoundland.

By HENRY REEKS, Esq., F.L.S., &c.

(Continued from S. S. 1759.)

Letter 4.—ORNITHOLOGY—(concluded.)

PROCELLARIIDÆ.

Fulmar Petrel, Procellaria glacialis, *Linn.*—Apparently common in its migrations, but I could not learn that it bred on the island.

Leach's Petrel, Thalassidroma leachi (*Temm.*)—Tolerably common, and probably breeds on some of the islands in company with the following species.

Wilson's Stormy Petrel, T. Wilsoni, *Bon.*—Appeared to be more common than *T. leachi,* and was said to breed on several islands along the coast of Newfoundland, especially at Port au Port; it is very probable, however, that some of these reported breeding places refer to the following species.

Stormy Petrel or *Mother Carey's Chicken,* T. pelagica (*Linn.*)—A common summer migrant, remaining probably until the appearance of the drift ice. Breeds on many of the islands round the coast.

Greater Shearwater, Puffinis major (*Faber.*)—I have never observed this species so far north as Cow Head, but it appeared tolerably common in the Gulf of St. Lawrence, on the west coast of Newfoundland.

Sooty Shearwater, P. fuliginosus, *Strick.*—Common on the banks of Newfoundland, but rather rare in the Straits of Labrador.

Manx Shearwater, P. anglorum, *Ray.* — Tolerably common, especially about the Gulf of St. Lawrence. The shearwaters are rarely, if ever, seen on the islands near the coast of Newfoundland. They are to be seen at all seasons in the Gulf of St. Lawrence, which has given rise to some curious ideas among the sailors, viz., that these birds *never breed,* or that during the breeding season the females retire to some *unknown* islands for that purpose. Their breeding stations are equally unknown to the settlers, but they are probably on some of the surf-bound islands on the "banks"—once the favourite resort of the great auk.

LARIDÆ.

Pomarine Skua, Stercorarius pomarinus, *Temm.*—Common, especially in the fall of the year.

BRITISH MUSEUM

Arctic Skua, S. parasiticus (*Linn.*)—Most common in spring and fall. This and the preceding are called "dung birds" by the settlers, evidently from the manner in which they persecute the smaller species of *Laridæ*, and devour not only their disgorged food but also their fœces.

Buffon's Skua, S. cepphus (*Brünn.*)—Appeared to be a rather rare periodical migrant, but it is difficult to distinguish the three skuas on wing, even with the aid of a good glass; from specimens obtained this species seems to be the rarest.

Glaucous Gull, Larus glaucus, *Brünn.*—Tolerably common in its periodical migrations, especially in the fall of the year, and during strong gales of north-westerly winds. It is called the "large ice gull."

White-winged Gull, L. leucopterus, *Faber.*—Like the preceding species a periodical migrant, and most common in the fall of the year.

Great Blackbacked Gull, L. marinus, *Linn.*—A common summer migrant, arriving towards the last of April and remaining until the drift-ice appears. It builds its nest of grass and rushes on rocks and small islands, most commonly in fresh-water ponds and lakes, but very frequently in similar situations in bays, &c. Provincial name, "Saddler Gull."

Herring Gull,* L. argentatus, *Brünn.*—Abundant throughout the summer, and breeds in similar situations, and often in company with the preceding and following species. It is called the "blue gull" by the settlers.

Ring-billed Gull, L. delawarensis, *Ord.*—Common throughout the summer. Provincial name, "squeezy gull." All the above species of *Larus* are carnivorous, but more especially *L. glaucus* and *L. marinus*. No sooner does a dead or dying bird appear on the surface of the water (the raven generally secures such prizes when washed ashore) than it is quickly espied by the gulls, which immediately commence squalling and in circling flights surveying their victim. Should it prove to be a goose or duck, or even one of their own species, the "old saddler" (*L. marinus*) usually commences operations; this it does, if the bird is quite dead, by standing *on* the floating body and picking first the neck and then the breast, and in a wonderfully short time the gulls devour every part of a fine fat goose except the bones and feathers: I have often watched the process in, I fear, a rather dog-in-the-manger spirit—having first killed or crippled the goose for them.

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* Professor Newton informs me "that the American form of this bird has been of late regarded as distinct under the name of *L. Smithsonianus*."

? *Bonaparte's Gull*, Chroicocephalus philadelphia (*Ord.*)—I have every reason to believe this little gull occurs occasionally in the Straits of Labrador. During the fall (Aug. and Sept.) of 1866, and again in 1867, I saw gulls (on wing) which I could refer to no other species, and the settlers, to whom I showed specimens of the following species, said they were larger than the "tickler,"—a small gull with which they evidently seemed familiar, and one which I think will prove to be this species.* As the species of some of the *Laridæ* in immature plumage are not easily determined, even by naturalists, there is room to doubt the testimony of fishermen, as well as my own, as to the identity of *C. philadelphia* with the provincial name "tickler;" at the same time I think it would be negligent on my part not to mention the evidence in favour of its occurrence on the coast of Newfoundland. Because so celebrated an ornithologist as Audubon did not see it, there is no reason why another person may not.

Kittiwake Gull, Rissa tridactylus (*Linn.*)— Tolerably common, especially in its periodical migrations. I did not hear of any breeding station on the island.

Ivory Gull, Pagophila eburnea (*Gmelin.*)—A very rare periodical migrant on the N.W. coast of Newfoundland. Two were obtained at Parson's Pond in January 1867, and another in January 1868; they were brought to me for identification, being unknown to the settler who shot them, and who, strange to say, killed all the three specimens. They were shot during a gale from the S.E., so that they must have flown across the island, which is narrow at this part, and not more than fifty miles from water to water.

Sabine's Gull or *Fork-tailed Gull*, Xema sabinii (*Sabine*).—A periodical visitor, but not common at Cow Head.

Caspian Tern, Sterna caspia, *Pallas.*—A tolerably common summer migrant, and breeds on many of the islands along the coast: I obtained eggs in the Bay of St. Paul. The settlers call it the "mackerel bird."

Wilson's Tern, S. Wilsoni, *Bonap.*—The most abundant species on that part of the coast which I visited. It arrives early in June, congregating and breeding on the coast islands as well as the mainland.

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* There is certainly a possibility that the American Black-headed Gull (*Chroicocephalus atricilla*) goes farther north than Massachusetts, and visits the coasts of Newfoundland; perhaps in company with *C. philadelphia*.

Arctic Tern, S. macrura, *Nauman.*—Rare at Cow Head; otherwise I confused it with the preceding species. Both are called "steerings" by the settlers—a name which their cry suggests. Some few small islands round the coasts of Newfoundland have been named "Steering" Islands from the number of terns which breed on them, although the name suggests a nautical derivation.

Least Tern, S. frenata, *Gambel.*—Apparently very rare. I only examined one specimen, which was shot about the 10th of September, 1867. This bird was probably blown across to Newfoundland by N.W. gales, which often prevail at that season.

SULIDÆ.

Common Gannet, Sula bassana (*Linn.*)—A very common summer migrant and constant attendant on the large shoals of mackerel and herring, which are migratory in spring and fall, the seasons of which are indicated to the settlers by gannets and gulls.

PHALACROCORACIDÆ—THE CORMORANTS.

Common Cormorant, Graculus carbo (*Linn.*)—A summer migrant and very abundant at some breeding stations along the coast.

Double-crested Cormorant, G. dilophus (*Swain.*)—Equally abundant as the preceding; both species fly in the form of the letter V reversed, and breed in colonies: *G. dilophus* is said to breed *in trees* in Hawk's Bay, Newfoundland.

COLYMBIDÆ.

Loon or *Great Northern Diver*, Colymbus torquatus, *Brünn.*—A very common summer migrant to Newfoundland, where it is called "Loo," *not Loon.* At this season nearly every lake and large pond is tenanted by its pair of loos; I say by *its* pair, because I believe the same pair, unless destroyed or continually disturbed, invariably return to the same site for many years. In 1867 a female loo hatched her two eggs on a rock in Parson's Pond, within gunshot of a house of one of the settlers. The house was not usually tenanted during summer, but some of the family were daily going to and from. The same pair of birds (?) had for many years hatched their young on this rock, which sloped gradually into the water, and was nowhere at that season more than a foot out of water. When built on an island, or by the side of a lake, I have never known the nest more than three feet from the water, and very rarely so much: the birds are very awkward walkers, although wonderfully strong on wing, and breed on many of the lakes in the interior of Newfoundland; not only on the plains, but on the high table-land, upwards of two thousand feet above the sea. Loos are often taken in the salmon-nets of the settlers: I got a very fine adult male taken in this way on July 10th, 1867. The settlers easily "tole" these birds within gunshot by secreting themselves and waving a cap or red handkerchief. So fascinating is the red handkerchief that I have seen the same bird "toled" up within easy range, and shot at two or three times before it was killed: they are such expert divers, that they are far more easily toled than shot on the water. Young birds are sometimes so fat in the fall of the year, that I have seen the fat lining the inside of the skin average half an inch in thickness! The settlers affirm that there are two species of Loos; the great northern, which they call the "spotted loo," and another with the throat white, which is termed the "whitethroated loo," and which is distinguished from the young of *C. torquatus* in its first year's plumage by having the feathers on the back spotted with white instead of "margined with greyish white." Certain it is that plenty of such birds are seen every summer, *i. e.*, June and July; and, although the settlers say that they have found nests of the "white-throated" species (?), I am under the impression that they will prove to be non-breeding birds of *C. torquatus* in the *second* year's plumage —a state of which I have seen no description. The fact, however, of these birds being found at midsummer white-throated and with the back spotted is worthy of note, because the great northern diver has scarcely commenced laying at that season.*

Redthroated Diver, C. septentrionalis, *Linn.*—A common summer migrant, breeding generally in some of the smaller ponds in the marshes; placing its nest on a tussock of grass surrounded by water.

Podiceps———? A species of grebe was caught in the marshes near Cow Head by one of the settlers, and was considered a great curiosity by all who saw it. This occurred a year or two before I got there, and unfortunately no part of the bird was preserved: it was probably a straggler from the Labrador shore, as none have been taken since, neither could I learn of any previous capture.

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* Adult specimens of *C. torquatus* had the bill *black* tipped with horn; while immature birds had the bill *horn-coloured*, with ridge of upper mandible *black*.

ALCIDÆ.

Great Auk, Alca impennis, *Linn.*—With this species I arrive at the most interesting of Newfoundland birds—once abundant, but now, alas! I fear extinct, or nearly so. Almost the sole object of my visiting the island was to collect further information from those who were likely to have met with this bird,—which is called "Pinwing"* by the settlers, and *not* Penguin, as Audubon informs us,—in a living state, and also, if possible, to visit the islands on the east coast, more especially Funk and neighbouring islands. The latter intention was, however, unfortunately frustrated by the severe accident I met with so shortly after my arrival, and, although I met several old settlers who had seen the living bird fishing in the mouths of Bonne Bay, Bay of Islands and Bay of St. George, none could with certainty tell me when the last was either seen or captured. I was, however, informed by some of the settlers that "a living pinwing was caught by one Captain Stirling about twelve years ago," but whether destroyed or not I could not learn: Captain Stirling was drowned and his vessel wrecked some seven or eight years since. I have no doubt this tale is true in the main; the only questionable part being the *exact* date, which, from my experience of these good-hearted people, is just as likely to have been fifteen or sixteen years ago as "about twelve." The fact recorded by Col. Drummond-Hay ('Ibis,' 1861, p. 397) of a living specimen of *A. impennis* being seen on the banks of Newfoundland so recently as 1852, and also of another picked up dead the following year in Trinity Bay, goes far to substantiate the statement of the settlers, and, I think, to fix the time at about that date. The settlers generally believe that the pinwing is *not* extinct, but such testimony cannot be of the slightest value, as they have no reason *why* it should not be so; neither have I, although I fondly—some will perhaps say foolishly—cherish the same belief, except that vessels have no object in going within several miles of the surf-bound and dangerous islands on the southern and eastern coasts, which are the most likely to hold the great auk at the present day. As Mr. Gurney ('Zoologist,' S.S., p. 1640) appears under the impression that the mummy of the great auk forwarded to the British Museum by Mr. J. M. Jones,* President of the Nova Scotia Institute of Natural Science, was "found by the Bishop of Newfoundland while on a missionary cruise at Funk Island," I will take the liberty of transcribing his lordship's letter to Mr. Jones as it appears in the 'Transactions of the N. Scotia Institute of Nat. Science," the more so as I wish to make a few remarks thereon. The italics are mine:—

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* Professor Newton tells me that more than ten years ago he formed the opinion (from the fact of the operation known as "*pinioning*" being called "*pin-winging*" in some parts of England) that the name "Penguin," or "Pingwin" as it is often also spelled, was but a corruption of the word Pin-wing, and had been applied to certain sea-fowl which being unable to fly appeared to have been "pin-winged." Until quite lately informed by me, he did not know that the Newfoundland name of *Alca impennis* was so pronounced as to give support to his theory.

"St. John's, N. F., August 10th, 1864.

"My dear Sir,—I am much pleased that the mummy arrived in a good state of preservation. How long it has been *embalmed or entombed in the ice* I cannot of course tell, but I understand the different specimens were found several feet (at least four) below the surface, and *under ice which never melts.* They were all found on the Funk Islands, but on which side I am not able now to discover, as the person who dug them up is not at present, I believe, in St. John's. He was sent, or went there to gather the guano or bird manure on speculation, with strict injunctions to procure, if possible, the bones or skeletons of the extinct bird. In this he succeeded better than in his own business, and probably if he had known the value attached to these specimens by naturalists he might have turned them to better account than the guano. One specimen I sent to Mr. Newton, and you saw by his letter how highly it was prized. Another was sent to Agassiz, and the third I have been enabled through the kindness of our Governor to forward to you: and this is the most perfect of the three, or certainly more perfect than the one I sent to Mr. Newton; the other I did not see.

"I think it very likely more specimens might be found, as no persons are living on the island; and it is only lately that any attempt has been made to discover and preserve the skeleton.

"Your's faithfully,

"ED. NEWFOUNDLAND."

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* Of this specimen Professor Newton writes me that "it was originally intended to have been sent to me, but that having sailed for Spitsbergen just before the bishop's letter to me reached England, I was unable to let him have an answer for many months. I wrote to him immediately on my return home, and shortly after was inexpressibly mortified to find that not having heard from me for so long, he imagined

The parts of sentences italicised in the above letter appear to me rather conflicting observations. In the first place his lordship appears to have been informed, either directly or indirectly, that the mummies were, or rather the one sent to Mr. Jones was, "embalmed or entombed *in the ice*," and also that they were found at least four feet "*under* ice which *never melts!*" If the specimens were really "embalmed or entombed in the ice," it is right to infer that they were not originally Funk Island birds—*i. e.*, were not there in a living state, but that they died in high northern regions and *there* became "entombed" in ice which eventually *drifted* on to Funk Island, because the drift ice *only* remains unmelted until late in summer; that which is formed during winter on the coasts, or on the islands along the coasts of Newfoundland, *soon melts* on the approach of summer. Again, on the other hand, it is new to me, and contrary to my experience, to find that ice, even from high northern latitudes, when drifted to and piled on an island by the winds, only a few feet above sea-level, and in the same latitude as the extreme south of England, should *never* melt! In all probability ice has drifted on to Funk Island for many hundreds, or perhaps thousands of years,—as long, at any rate, as the pinwings have used it for a breeding station, but at the same time I consider it *quite* as probable that the ice *melted annually* before the birds commenced breeding. It hardly seems reasonable that birds which make little or no nest should select an island and deposit their eggs on ice which "never melts," when plenty of adjacent islands were quite free from ice at that season. From the fact of the specimens being found under ice so late as June or July, the man who dug them up was probably impressed with the idea that the ice was a permanency on the island. For further particulars respecting the great auk on the coasts of Newfoundland I must refer my readers to two papers by Professor Newton,—one in the 'Proceedings of the Zoological Society' for 1863, and another in the 'Natural History Review' for October 1865,—the latter being a capital *résumé* of and commentary on previously published matter.

Razor-billed Auk, A. torda, *Linn.*—Common throughout the summer and fall; in fact, until driven south by the drift ice. It is called a "tinker" by the settlers.

I did not care to have a second specimen, and so sent it to Mr. Jones, by whom it was given to the British Museum, where its skeleton—a very perfect one—is now to be seen."

Common Puffin, Mormon arcticus (*Linn.*)—Common in the summer, but most abundant in the fall. It is the only species of puffin I obtained, but the settlers say a larger puffin is also found there in the fall of the year, which is probably *M. glacialis*, Leach.

Black Guillemot, Uria grylle (*Linn.*)—A very common summer migrant, remaining until after assuming its winter plumage, and migrating only on the appearance of drift ice. Provincial name "pigeon."

Common Guillemot or *Murre*, U. lomvia, *Brünn.*—A very common periodical migrant, breeding plentifully on islands on the north coast of Newfoundland, and along the Labrador shore. I was unable to identify *U. ringvia* as more than a common form of *U. lomvia.*

Thick-billed Guillemot, U. arra (*Pallas*).—Equally common with the preceding. Both species are called "murres" and "turres" by the settlers.

Little Auk, Mergulus alle (*Linn.*)—A very common periodical migrant, arriving in October and remaining until driven farther south by ice. Provincial name "bull-bird."

In the above list two hundred and twelve species have been enumerated, nearly all of which I have identified as belonging to the avi-fauna of Newfoundland. That the subject is anything like exhausted I am far from thinking; although perhaps some years may elapse before this list is materially added to, yet there is much to be learned on the economy and migrations of some species. Why many of the Charadridæ, Scolopacidæ, &c., which are supposed to breed in Alaska, or even in the Arctic Circle, should be so abundant in Newfoundland during the autumnal migrations, and yet rarely or never observed on the vernal migration, I am unable to explain. Nevertheless, it seems pretty evident and perhaps natural that a more direct route is taken at that season. Prof. Baird is of opinion (I presume from evidence adduced) that the vernal migration is by way of the Mississippi valley; thence by the great lakes in the Hudson's Bay territories. Be this as it may, it is wonderful that a station (say for argument Bahama Islands, or any of the West India Islands) used as winter quarters should be annually resorted to *viâ* Newfoundland and Bermuda, and that Alaska, or territories within the Arctic Circle, should also annually be visited in summer by a route several hundred miles westward of that (the Newfoundland) invariably adopted in the fall of the year. I trust naturalists in Newfoundland and the British Provinces will *carefully* note those species which pass southward in the autumn, and *especially* those which reappear in the spring: I allude here, of course, only to those species which are known to breed far north, although the migration of species will be found one of the most interesting studies in the economy of animal life.

HENRY REEKS.

Thruxton, Andover.

Ornithological Notes from Suffolk. By ALEXANDER CLARK-KENNEDY.

JANUARY, 1869.

Green Sandpiper.—During the last two months half a dozen green sandpipers frequented some low meadows at Wickham Market, which are intersected by numerous small ditches; I often disturbed them near a certain old post and rails which cross one of the streams, and noticed that they usually fed in company, but when flushed flew off in different directions, ascending to a great height, and returning again one by one to their old feeding ground: I could have shot them all many a time, but I hoped to see them breeding in this neighbourhood during the summer, and a friend had already procured a pair for me from this same locality.

Herring Gulls.—Were extremely numerous during the past winter, flying long distances from the sea; and many of the common, and a few brown-headed, gulls paid visits to the lakes and ponds in the interior of the county.

Wild Fowl.—Owing to the extraordinary mildness of the weather, few fowl of any kind put in an appearance on the rivers; but, a few days after Christmas, there was a short and sharp frost, which drove mallard, wigeon and teal, with a few immature, and fewer adult, goldeneyes, into the Woodbridge river; where, however, they were very wary, and the punt-gunners were not successful in obtaining many birds.

House Sparrow.—A black variety of this common species was killed near Melton, towards the end of the month, and several pied examples have also been met with.

FEBRUARY.

Wild Fowl.—On the 25th January we experienced a sharp frost and several rare ducks were observed among the commoner kinds o the Alde. An eye-witness informed me that the reaches of the river between Iken and Snape were literally swarming with mallard, duck and wigeon. This man, who went out after the birds in a punt *minus* the punt-gun, killed with a small single barrel over thirty fowl in one day, among which were three goldeneyes and a bird which he described to me as the "white-winged wigeon," which had never been seen on the river before by any of the gunners, and it seems that no one knew its proper name. Unfortunately I had no opportunity of examining it, as the man had sold it before I knew of its occurrence. Teal, curiously enough, do not seem to have made their appearance during this spell of cold weather, either on the rivers or in the little streams and reedy brooks, to which a frost often drives them. A few shieldrakes were observed on the river about this time, and the shooter, to whom I have before referred, managed to kill three at one discharge of his gun, two of which were old females and the remaining bird a very fine male, of unusually heavy weight. A "skein" of bean geese were seen in some pea-fields and fallows near Iken, but none were shot; and small companies of the tufted duck were noticed near Aldeburgh, and I believe some few scoters, but I do not think any of the latter were obtained. Snipe were very plentiful on the "saltings" while the few days of cold lasted, but on the 10th February I could scarcely find a bird. Jack snipe were common during the winter, and I believe I must have killed quite sixty of these little fellows since the previous October in the marshes near the river.

Brownhooded Gull.—On the 13th February, owing to the heavy rains which fell during the previous day and night, the meadows near the Alde and its branches were laid under water for many miles, and the floods attracted an immense number of gulls and plovers from their usual haunts near the coast. The gulls seemed principally to be Larus ridibundus, with a few common and herring gulls intermixed. Neither of these latter associated with the peewits, but the brown heads did so, flying about in company with the plovers and sitting near them on the grass. The "peewit gull" is a local name for this bird: I amused myself by watching from behind a hedge a flock of about eighty of these pretty little gulls as they circled around in the air; when one would dash down almost like a hawk until within a few feet of the water, then suddenly rise for a moment and hover, until dipping its blood-red bill into the stream some floating garbage or small fish was secured. At this date the black, or rather brown, hood was not yet assumed; but two birds which I shot showed signs of an approaching change of plumage. On the 14th but very few gulls were left in the marshes, and on the following day the whole community had disappeared together with the temporary lake, and only a pair of common gulls were observed where the day before there were hundreds.

MARCH.

White Sparrow.—An albino house sparrow was seen by the Rev. W. Freeman, near Marlesford, early in the month.

Hooded Crow.—These crows began to leave us on the 2nd, and by the end of the week not one was to be seen in their old haunts on the "saltings" near the river.

Heron.—On the 2nd I paid a visit to a large heronry near here, one of the few still existing in this county, where these noble birds have been protected, it is said, for nearly a century. After some hesitation the old gamekeeper allowed me to walk through the heronry, for permission is seldom accorded to strangers to do so, as the proprietor is exceedingly anxious the birds should not be disturbed. As we entered the wood of fine fir trees, the birds—to the number of about eighty—rose from the branches on which they had been resting, and silently circled high above our heads. Now and then one of them, catching sight of my retriever, swooped at him with a hoarse cry. The birds were then beginning to repair their old nests, and in some instances to build new ones, but the former, when annually patched up, are made to do service for several seasons. No eggs were yet laid, owing to the cold weather which had prevailed during the previous three weeks. The nests differed little in size, one to which I climbed being three feet across, and composed of decayed fir branches and large twigs, with a little wool for a lining: on some of the trees there were as many as ten nests, and in almost every instance more than one nest was placed on the same tree. Wood pigeons, carrion crows, with a few kestrels, seem to live in perfect harmony with the herons, their nests often being within a few feet of those of their larger neighbours.

Yellow Bunting.—An unusually large flock, numbering many hundreds of these birds, was observed on the 6th; they allowed me to approach within a few yards before they took flight, then only moving their quarters about thirty yards.

Redshank.—A small party of redshanks returned to their summer haunts on the 10th, and by the 25th many hundreds were to be seen near the marshes where they breed.

Peewits.—The first were noticed on the 17th, and by the 20th some were paired and flying about near their breeding ground.

Missel Thrush.—On the 20th an old missel thrush was sitting on a nest containing four eggs, although it was snowing hard and the ground was quite white.

Brownhooded Gull.—On the 23rd one flew close past me with its brown hood perfectly completed, but I saw others in which the change was only partially effected.

Jack Snipe.—I shot the last which I saw this spring on the 23rd, my dog flushing a second at the same time: the russet colour, which characterises the summer dress, was beginning to be assumed on the neck.

APRIL.

Greater Spotted Woodpecker.—A female of this species was killed by one of the gamekeepers in Little Glemham Park on the 30th, and I procured it from him: it showed signs of sitting, and I fear it had a nest—perhaps full of young.

Snipe.—On the 23rd I saw a "full" snipe for the last time, having put one up several times during the previous week.

Spring arrivals.—The house martin was first seen on the 22nd; swallows and sand martins a few days previously; redstart on the 21st; nightingale on or about the 20th; and red-backed shrike towards the end of the month.

Godwit.—On the 24th, the earliest party of bar-tailed godwits made their appearance on the mud "flats" of the Alde.

Whimbrel.—I noticed the whimbrel for the first time this year upon the same day, the 24th.

MAY.

Golden Oriole.—On the 5th of the month a hen of this handsome species was shot in a plantation a few miles from Woodbridge. On the 31st, as a friend and I were walking in a quiet lane near Parham, a bird, which I am almost certain was an oriole, flew over our heads and alighted in a clump of trees a few hundred yards off: it was of an extremely bright yellow, and the sun was shining at the time, giving the bird a beautiful appearance.

Redbacked Shrike.—In the stomach of a male which I shot on the 24th I found a mass of beetles, with feathers and undigested bones of a hen chaffinch.

Swift.—First seen, at Great Glemham, on the 8th.

Turtle Dove.—I noticed the first flock of these doves on the 6th, from which date they steadily increased their numbers by fresh arrivals.

Redshank.—Eggs of this bird were found during the whole month, and I saw the first young on the 21st, and fresh eggs were found by a friend on the following day.

Terns.—The common, arctic and lesser terns returned to their old breeding grounds on the pebbly tract of beach between Aldeburgh and Orford, but I could find no eggs when I paid a visit to the spot on the 25th, the cold winds having doubtless retarded the breeding of many of our sea birds.

Ringed Plover.—Eggs found throughout the month, and in many cases young hatched.

Swallows and Martins.—On the 28th and 29th of this month, owing to the bitter winds and rain, many of the Hirundines suffered badly: swallows, martins and sand martins being found dead on the roads and in gardens near Glemham. Dr. N. F. Hele informed me that the same diminution of their numbers had been observed at Aldeburgh; and the accounts from other places tally as to the great sufferings of these little birds on the dates above-mentioned.

JUNE.

Redshank.—My retriever found a nest with fresh-laid eggs on the 9th, and several others from which the young had gone, so I conclude that this must have been a second laying.

Common Gull.—A large flock of this gull appeared at Iken on the 9th: it is a common bird in the autumn and during the winter months, but in summer is not often seen: so far as I could ascertain all were adult birds.

Heron.—At this date young birds were beginning to take long flights with their parents.

Kentish Plover.—A pair were shot on the 1st of the month by a friend of Dr. Hele's, near Aldeburgh: it is one of the rarest birds on this coast.

Pied Flycatcher.—I saw a male flying about upon the beach, near the little village of Sizewell, between Aldeburgh and Dunwich; this was on the 12th, which was not a warm day, and the wind was easterly.

ALEXANDER CLARK-KENNEDY.

Golden Eagle in Norfolk.—A correspondent in the 'Field,' of December 19, 1868, announced that a golden eagle had been found dead in the Stiffkey Marshes, in this county, and, though in a state of decomposition when discovered, that the sternum and feet were preserved. I have since had an opportunity of examining one of these feet, by which the speciesis clearly identified; and I am now enabled, for the first time, to record the occurrence of this eagle in Norfolk. The history of this specimen appears to be as follows:—It was first seen in November lying dead in the marshes, on the property of Mr. P. Bell, of Stiffkey, by a fisherman named Green, who mentioned the fact to Mr. T. J. Mann (the 'Field' correspondent), who was at that time shooting in the neighbourhood: he immediately visited the spot and secured such parts as were most likely to identify the species, the carcase being then too far gone for preservation; but, from his description of the tail-feathers, "chesnut brown, shading off to a perfect black at the tips," it was no doubt an adult bird. The foot sent to me in January last, by Mr. Mann, had the toes still supple, as if taken from a recently killed specimen; and from its small size, though having formidable talons, I have no doubt, on comparing it with the fine series of golden eagles in the Norwich Museum, that it belonged to a male bird. I could not ascertain at the time, either locally or from the Journal, that any eagle of this kind had escaped from confinement; and I suspect, therefore, from the locality in which it was found, close to the sea, that it was the victim of some random shot off the coast, and died almost as soon as it reached the shore.—*Henry Stevenson; Norwich, Sept.* 13, 1869.

Capture of the Eagle Owl in Norfolk.—I had the pleasure of seeing a magnificent specimen of that rare English bird the eagle owl (*Bubo maximus*), in the flesh, at Mr. E. Ward's, Wigmore Street, on Monday. The expanse of the wings was 5 ft. 8½ in. This specimen was shot on Saturday on the coast of Norfolk, and was sent to be preserved by Mr. T. F. Buxton. This grand bird, which preys on fawns, hares, grouse, &c., is a resident on the continent of Europe generally, particularly the mountainous parts; skins have also been received from China and Astrakan. It is not an uncommon bird in our vivaria, but can only be regarded as an occasional visitant to the British Isles; though specimens have been shot in most of the counties on the eastern coast. The bird is apparently a female, and it exceeds the dimensions given by Macgillivray.—*W. B. Tegetmeier* (*in Field*).

[This subsequently proved to be an escaped specimen.—*E. N.*]

Snowy Owl in Ross-shire.—A male bird of this species, adult and in the moulting stage, was shot in Beaufort Castle grounds, near Beauly, Ross-shire, on the 21st of August this year. I saw the bird in the flesh in Inverness, at Mr. M'Cleary's, bird-stuffer, to whom it had been sent for mounting.—*A de Hügel; Gairloch, Ross-shire, August* 30, 1869.

Woodchat in Kent in 1868.—For several days during the month of July, 1868, a woodchat shrike had been known to frequent gardens in the neighbourhood of Faversham and Murston, but for a time all endeavours to shoot the bird were unavailing, as it was extremely wild. Towards the end of the month, however, it was seen upon a cherry tree in an orchard at Murston, by Mr. N. Barlow, who killed it, and took it to a local taxidermist, who informed him it was a common bird and of no value; but as soon as the possessor of the rarity had departed the unscrupulous dealer sold it to a gentleman who well knew its worth for a large sum.

My friend, who is not an ornithologist, afterwards found that he had been cheated out of a fine male specimen of one of the rarest birds that visit this country.—*Alexander Clark-Kennedy; September* 11, 1869.

Fieldfare's Nest at Alresford.—Colonel Hawkins having written me word that a pair of fieldfares had built their nest and brought up their young ones in the rectory grounds at Alresford, I suggested the missel thrush. Col. Hawkins has since sent me the nest, and also a note from the Rev. J. H. Swainson, whom your readers will be interested in knowing is the brother of the celebrated and lamented naturalist of that name. The nest is certainly very similar to those described by Hewitson as belonging to the fieldfare. In his note to Colonel Hawkins Mr. Swainson says:—"Seeing a strange-looking nest of loose twigs on the lower fork of the boughs of a medlar tree on my lawn, about seven feet from the ground, and the idea crossing my mind that it was not unlike what I had heard of a fieldfare's nest, I asked my gardener 'What nest is that?' He immediately replied, 'Oh, sir, two fieldfares built there this spring; I should have destroyed it, but Mrs. Wing wished me to leave it.' I said, 'Are you sure they were fieldfares?' He answered, 'Yes, sir; I saw the birds often about.' 'But,' I inquired, 'did you see them on the nest?' 'Yes,' was the reply again; 'the cock bird used to be picking about, while I could see the hen on the nest.' After you and I had had some conversation upon the subject, I also asked him whether either of the birds seemed lame or weak on the wing; but he replied that there was nothing particular about them. This was all he knew; he had not looked into the nest to ascertain how many eggs were hatched, nor did he see the young ones fly. But he was quite certain they were fieldfares, and I am quite satisfied that we may depend upon his testimony." The gardener's testimony is of value, provided he was quite certain that the bird was not a missel thrush, and that he was capable of distinguishing between the two.—*C. R. Bree* (*in the 'Field'*).

Fieldfare's Nest at Alresford.—In corroboration of the nest at Alresford (mentioned in the 'Field' of June 12) having been that of the fieldfare, I send the following:—(1) Mr. Swainson suggested to the gardener that the nest was that of the missel thrush; but the latter immediately pointed out a real missel thrush's nest on an adjoining tree, thus most satisfactorily showing that he well knew the difference between the fieldfare and missel. (2) Col. Hawkins saw on Sunday, the 6th of June instant, a pair of fieldfares mobbing a jay. Col. Hawkins knows the bird well, and says he could not possibly be mistaken. This was in the Alresford coverts, which adjoin the rectory garden, where the nest was built. Col. Hawkins did not see any young birds, but he was quite sure from the hostile manœuvres of the old bird that they were near. I think we may conclusively state that this is a well-attested and proved case of the nidification of Turdus pilaris in this country; and it is interesting, for the event is very rare. The birds will, I think I may venture to say, not be shot at Alresford; so they will have a good chance of breeding again.—*Id.; Colchester, June* 18, 1869 (*in the 'Field'*).

Golden Oriole in Kent.—There was shot on June 2, by Mr. Wiggins, keeper, Louthfield Park, Tunbridge Wells, a fine female golden oriole (*Oriolus galbula*). On examination I found the bird must have had a nest of eggs or young ones at the time it was killed.—*Edwin Ward; 60, Wigmore Street, Cavendish Square* (*Id.*)

Golden Oriole near Horsham.—The keeper here shot a male golden oriole one day this week: I am having it preserved by Mr. Richardson, of Horsham. Will you in-form me whether it is very rare, and when and where it has been seen or shot?—*F. N. Pigott; Bones Hill, Horsham, May* 12 (*Id.*)

[Several specimens have been observed near the Land's End this spring.—*E. N.*]

Robin and Wigeon breeding in confinement.—As neither of these birds frequently breed in confinement I send you the following notice of their doing so for insertion in the 'Zoologist.' Until this year I have never been able to keep a pair of robins in my aviary, as one always killed the other; now, however, I have not only succeeded in doing so, but they have actually made a nest and succeeded in rearing a brood of three young ones. One curious fact connected with the robins is that they established a connexion with a robin outside, who constantly supplied them with food through the wire netting: as the aviary is close under my dressing-room window, I had frequent opportunities of watching this curious proceeding. I have a pair of wigeon in the pond, but until this year they never attempted making a nest, though the drake was always very attentive to and jealous of the duck; this year, however, the duck made a nest in a field of mowing grass and laid five eggs, and sat on them for nearly a month: the eggs, however, were unfortunately addled, probably because the bird was so often driven from her nest by mowers and haymakers: the nest was on the ground in a thickish clump of grass made of a few long bents twisted together and lined with down from the bird's own body, looking, consequently, much like the nest of the Muscovy duck: the eggs are a rich cream-colour, smaller and much more pointed than those of the wild duck—two inches two lines in length, and one inch five lines in breadth at the broadest part.—*Cecil Smith; Lydeard House, Taunton.*

Beautiful Variety of Nightingale's Eggs.—In June last a friend took a nest of the nightingale, containing five eggs, in a wood at Hetherset, near Norwich: four of the eggs were of a beautiful rich blue colour, spotted with red on the larger end; the fifth egg was of a pale olive, spotted and streaked with darker olive colour. One of the former and the latter my friend kindly presented to me. The blue variety of the nightingale egg is, I believe, of rare occurrence.—*T. E. Gunn; Regent Street, Norwich, September*, 1869.

Painted Bunting in Oxfordshire.—A note of mine in your last week's issue, on the occurrence of the painted bunting (*Spiza ciris*) in this neighbourhood, has called forth questions from several of my acquaintances. My offence consists in having intimated a doubt as to whether this species has ever occurred in Britain otherwise than as an escaped cage-bird. I see in the 'Zoologist' list of birds only one instance of its occurrence mentioned. As I believe that it has occurred in Britain several times since, perhaps those of your readers who have met with specimens will let us know in what state they were, and if they showed any signs of captivity.—*Everard F. im Thurn; Adderbury Rectory, June* 8, 1869 (*From the 'Field'*).

Brambling breeding in confinement the second time.—In the 'Zoologist' for 1868 (S.S. 1218) I recorded the fact of a pair of bramlings breeding in confinement in this city: I have again to notice that the same pair of birds has nested this season, two eggs being laid, which, after a day or two, were forsaken.—*T. E. Gunn; Sept.*, 1869.

Serin Finch at Worthing.—A very fine example of this rare English visitant was shot at Worthing on the 4th of May, 1869. It has been very carefully mounted, and has been kindly sent by Mr. Frederick W. Lucas to our office, where it may be seen. The serin finch has only been captured a few times in England, and is not noticed by Macgillivray or Yarrell, but is described in Newman's Montagu. Although so rarely seen in England, a specimen captured in this country was living in the Zoological Gardens in 1866. The serin is a common cage bird in Germany.—(*From the 'Field.'*)

White Sparrow in Norfolk.—An entire white sparrow (*Passer domesticus*), immature, was shot at Cromer on the 21st of August.—*T. E. Gunn.*

The Plague of Sparrows.—Spare your kestrels; that is the best advice I can give: I believe that hereafter there must be a "Hawk Preservation Act;" the complaints of the increase of wood pigeons and sparrows are becoming general: this increase is entirely owing to the wanton destruction of birds of prey.—*Edward Newman.*

Rose-coloured Pastor in Somersetshire.—A specimen of the rose-coloured pastor (*Pastor roseus*) was shot on the 29th July in the garden of the Rev. A. B. Russell, Rector of Laverton, Somerset. At the time of being fired at, it was apparently feeding on currants (*From the 'Field'*).

Rose-coloured Pastor.—It appears from a note in the 'Field' that a specimen of Pastor roseus was shot near Somerset: there is no doubt about its feeding on the currants, as mentioned: its fondness for fruit is well known. I have avery beautiful bird of this species, which was shot whilst feeding on the berries of the elder tree: it was completely gorged with them.—*J. J. Briggs; King's Newton, Swarkeston, Derby.*

Cuckoo in a Swallow's Nest.—In the early part of August four or five young swallows, apparently just hatched, dropped from the interior of a high chimney of a country seat. About a fortnight afterwards, to the great surprise of the inmates, a young bird of considerable size, nearly fledged, dropped down the same chimney and came sprawling on to the kitchen floor. The young cuckoo—for such it was—was brought to me still alive: no doubt it had turned out the young swallows as soon as hatched, and perhaps in attempting to reach the chimney top had itself fallen.—*Henry Nicholls, jun.; Kingsbridge, South Devon.*

A Baby Dove Incubating.—On the 21st June a pair of African turtles (*Turtur risorius*) produced a single young one, the contents of the other egg being dried up (not addled). On the 22nd July the female was again observed sitting, and on the 24th I observed both male and female at liberty, and of course supposed that some casualty had caused them to desert; but no! on looking up at the nest—for it is higher than I can look into or reach—I saw the head of the young one, and his bright eye was looking down on me with an air of perfectly *maternal* solicitude and suspicion. On Sunday morning at eight the male dove was on the nest, and the female and young at liberty; but at two in the afternoon the young one again occupied the nest, and both the parents were at liberty, billing and cooing with great zeal, as though rejoicing in the precocious propensities of their progeny.—*Edward Newman.*

Crane on the Devon Coast.—A specimen of the common crane (*Grus cinerea*) has been frequenting the high-level fields near the Start Lighthouse, on five or six successive days: it was very shy and kept in the middle of the fields, frequently in company with the sheep. A friend of mine shot at it twice, but without effect.—*H. Nicholls, jun.; Kingsbridge, South Devon, Sept.* 13, 1869.

Green Sandpiper on the Norfolk Coast.—A small flock of the green sandpiper was seen about the Yarmouth marshes on the 13th of August: it consisted of seven or eight individuals; one was shot and sent me on that date, and the day following another was killed further along the coast, and a third, probably of same flock, about the same time near Halesworth.—*T. E. Gunn; Sept.*, 1869.

Black Swan on the Suffolk Coast.—On the 31st of August a beautiful specimen of the black swan was shot whilst swimming in the sea off Corton Cliff, near Lowestoft. It was forwarded me for preservation: it proved to be a female and in good order; the plumage in excellent condition, without the slightest traces of an escaped bird: if it was so, it had been at liberty some time. The gizzard contained a quantity of sand only.—*T. E. Gunn; Regent Street, Norwich, September* 8, 1869.

[There is no doubt that this, like others that have been killed at large, was an escaped bird: but the facility with which the species breeds renders it very likely that it should become naturalized on the Danube, where it is comparatively unmolested, and where it has been repeatedly noticed by travellers: in England it can never become a denizen.—*E. N.*]

Scoter breeding in Strathmore.—It may be interesting to some of the readers of the 'Zoologist' to hear of the breeding of the scoter (*Oidemia nigra*) in Britain. When in Caithness last year I saw three pairs of the birds, on the 1st of June, in Strathmore, and next day was fortunate enough to obtain a single egg. A gentleman residing in the neighbourhood, to whose kindness I am this year indebted for the female and three eggs, assured me that they bred regularly in that locality.—*J. Watson.*

Little Auk at Loughton.—I have a fine specimen of the roche, or small black and white diver, now in my possession: it was shot by a friend of mine at Loughton. I think it a very unusual place for such a bird so far inland: I believe it to be a bird of true oceanic habits, it being so entirely a sea-bird that it is only seen on land or in the vicinity of the coast during the breeding season.—*J. A. Clark; 11, Duncan Place, London Fields, April* 23, 1869.

Sooty Tern at Wallingford.—An adult sooty tern (*Sterna fuliginosa*) was shot on the river at Wallingford, Berks, on the 21st inst., by Mr. Franklyn, and has been sent to Mr. Gardner, of High Holborn, for preservation. The rarity of this tern in Europe may be estimated from the fact that, up to the present time, it has been noticed but once in England and once in Germany. Mr. Yarrell has included the species in the third edition of his 'British Birds,' recording the capture of a single individual at Tutbury, near Burton-on-Trent, in October, 1852. Since that date, a second, killed at Proedal, near Magdeburg, was noticed by Naumann, in his 'Birds of Germany.' The sooty tern, however, has a wide geographical range, although so little known in Europe. Its chief stronghold would seem to be in the West India Islands, from whence it extends northwards into Florida and Georgia. Mr. Dresser observed it at Galveston, in Southern Texas ('Ibis,' 1866, p. 44); and it has been found on Christmas Island. Southwards and westwards it ranges as far as Ascension Island, and is said to be common in the islands of the South Sea. On Ascension Island, the sooty tern nests regularly in great numbers, and an interesting account of this breeding station, from the pen of Lieut. Sperling, will be found in the 'Ibis' for 1866, p. 286. The bird is there known to the sailors as the "wide-awake" tern; and under this name it is mentioned by Dr. Collingwood in his 'Rambles of a Naturalist on the Shores and Waters of the China Seas' (1868). The sooty tern differs so much in appearance from all the other terns with which we are familiar in England, that an ornithologist could not fail to detect it amongst a host of others on the wing. It is intermediate in size between the common tern (*Sterna Hirundo*) and the Sandwich tern (*S. cantiaca*). The bill, legs and toes are black; the head, nape, and all the upper surface of the body, sooty black; the chin, breast and under parts pure white; while the tail is long and considerably forked. I examined the bird in the flesh. Mr. Franklyn may well be congratulated as the fortunate possessor of one of the rarest of so-called British birds.—*J. Edmund Harting.*

Black Tern's Egg in Norfolk.—On the 20th of April last an egg of the black tern was found on a marsh near Yarmouth; it was in the yelk and quite fresh, being probably dropped by chance.—*T. E. Gunn.*

Pomerine Skua at Aldeburgh.—On Wednesday, the 1st instant, I observed from the beach a small dark gull, curiously striped under the wings. Later in the day a similar bird was shot and taken to Mr. Hele of this place: it proved to be an immature specimen of the pomerine skua; length about 14 inches; colour dark brown, mottled and splashed with a deeper tint; the quill-feathers were black, edged with pale fawn-colour; tail black; under the wings were wavy bands of brown on an almost white ground, giving the curious effect described above. The two central tail feathers, so prominent in a mature specimen, only projected about half an inch.—*H. M. Wallis; Brudenell Terrace, Aldeburgh.*

Fulmar Petrel at Saltburn.—On the 19th of June I found a dead fulmar at Saltburn, washed up by the tide. This petrel is usually reckoned a rare winter visitor, and I cannot find that one has been obtained in England in June before.—*J. H. Gurney, jun.; Bank, Darlington.*

Varieties of Birds' Nests in one Garden.—It may interest some of the readers of the 'Field' and lovers of natural history to learn that the following nests are in a garden in this parish, within a radius of thirty yards, excepting the robin's and golden crested wren's nests, which are situated thirty yards outside:—nuthatch, firetail, blue titmouse (in three separate holes in the same red cedar), long-tailed titmouse, cole titmouse, tree creeper, flycatcher, moorhen, thrush, blackbird, missel thrush, green linnet, brown linnet, wren, starling, sparrow, robin, golden-crested wren.—*Wm. Gage Blake; Nowton, Bury St. Edmunds (From the 'Field').*

Zootoca v. *Lacerta.*—I am not quite prepared to give up the generic distinctness of Zootoca, for, after all, the fact of the deposit of eggs in a very few cases may be easily accounted for without this concession. I should like to know the condition of the eggs when excluded, and the period of the escape of the young after the eggs were expelled. I believe that I have stated that the young of the viper are only hatched (if such an expression may be allowed) in the act of extrusion, and that this liberation happens from the soft condition of the egg-covering. I think this is the case in Zootoca, and that the instances of the eggs being deposited whole may be only due to the unusual toughness of the membrane being such that the pressure in the act of extrusion is not sufficient to break it. The distinction between the snake and the viper and that between Lacerta and Zootoca, *quoad* the deposit of the egg, is quite analogous. It is not at all improbable that further observation might afford instances of the viper expelling its young still covered with its membranes; but this, as in the case of Zootoca, is a very different thing from the comparatively tough covering of the egg in Coluber and Lacerta. The real distinction, after all, does not consist in the accident of the young being expelled still covered with the membrane, or the contrary, but that in one case the young is matured before extrusion, and in the other not until sometime after. Whether the distinction is what is termed *generic* or not is of no consequence: this is in so many cases arbitrary, that it is not worth controversy. Mr. Moncreaff's interesting communication in the 'Zoologist' of the present month (S.S. 1836) strikingly confirms the view I have given above.—*Thomas Bell; The Wakes, Selborne, August* 2, 1869.

Toads devouring Bees.—I can confirm from my own observation, and unfortunately my experience too, the remarks of your correspondent on the apivorous habits of the toad. A large toad was found watching a bee-hive in my garden, and was seen taking one after another of the inmates, as the late arrivals came home: the marauder was removed to a distant part of the garden, but as evening returned he was again at his post: this was repeated with the same result, and at length he was taken to a place from whence he could not reach the garden without climbing the slightly overhanging wall of a ha-ha. My under gardener, an old and observant man, did not appear to consider this an unusual circumstance; but I have never seen it excepting on the occasion above mentioned. I once had an enormous toad from the Island of Guernsey which was so tame that he would sit in one hand and seize insects from the other.—*Thomas Bell.*

[With regard to the enormous toads so common in the Channel Islands, I should like to have the opinion of so distinguished a zoologist as Mr. Bell whether they are of the same species as our own. I was formerly abundantly supplied with this monster by my late friend William Christy, and later by M. Piquet; but the demand now exceeds the supply, and I shall be obliged to any friend visiting the Channel Islands if he will bring me half a dozen.—*E. N.*]

Fox Shark off the Slapton Sands.—I have to record the occurrence of the fox shark, or thrasher (*Carcharias vulpes*), a specimen of which was taken in a net by some fishermen, off the Slapton Sands, on the first of this month: it measures about twelve feet from tip of nose to extremity of tail; and the length of the tail was nearly half its whole length: its colour was dark blue, mottled with white over the belly.—*Henry Nicholls; Kingsbride, Devon, Sept.* 13, 1869.

Nematus-Gall on Rhododendron hirsutum.—In the September number of the 'Zoologist,' (S.S. 1838), I called attention to the occurrence of the gall of a saw-fly on Rhododendron ferrugineum, in the Ursern Valley. I have now to record that this same gall also occurs on Rhododendron hirsutum, in the Bernese Alps, whence specimens collected by Herr Bischoff-Ehinger of Basle, on the Gemmenalphorn, near Interlaken, at an altitude of about 6000 feet, have just reached me; but, I am sorry to say, in a condition which precludes the possibility of rearing the insect. However, this production, being now signalled as occurring in two localities on different species of the so-called "Alpine Rose," is likely to be found all over the Alpine Range; and I hope that entomological tourists will bear in mind that the perfect insect is unknown to us.—*Albert Müller; South Norwood, S.E., Sept.* 6, 1869.

Snake Poison, and reputed Antidotes for the same.

By CHARLES HORNE, Esq., B.C.S., F.Z.S.

I cannot forbear quoting in this place from a very interesting book ('Thirty-three years in Tasmania and Victoria,' by G. T. Lloyd) a story strongly resembling in its details many of those detailed in the previous paper: he is speaking of the diamond adder:—

"During my long sojourn in the colonies I must have destroyed at least a thousand of those treacherous enemies of man. I was always under the conviction that the diamond adder possessed animal magnetism, and had the power of fascination to a degree beyond any other of its species. Often have I seen a terror-stricken little bird hopping from twig to twig, uttering the most plaintive cries and twittering its nervous wings in trembling agony, caused, as I have invariably discovered, by the overpowering attractive gaze of a diamond adder. In this opinion I was one day most unmistakably confirmed; for, whilst passing through the locality referred to, for the purpose of hunting the diminutive animal erroneously termed the kangaroo-rat my favourite highly-trained lurcher, Pat, hearing the well-known alarm-call of the ever-watchful mina birds, immediately ran to the spot where they were assembled; curiosity induced me also to hasten to the place. On arriving, I perceived from certain twitchings of Pat's sensitive foot and nose, whenever she touched any doubtful substance in the long grass, that the subtle enemy—the deadly snake—was somewhere in the vicinity, and had been espied by the little bush police birds (as the minas are termed), and of whom there must have been at least six or seven hundred, screaming at the top of their voices and uttering cries of distress from the branches of an adjacent tree. In vain did Pat and I search every clump of grass, dead bush, and log around us; nothing could be found. At length, however, after quietly watching at a little distance for about ten minutes from a small hole in the branch of a hollow gum tree, forth peered the grim visage of a very large diamond adder. Pat's keen eyes discovered the hideous monster first, and rushing towards me in undisguised terror, with bristling hair, and standing erect on her hind legs, she showed me the serpent—which had artfully crept up the inside of a tree, the heart of which had been destroyed by bush-fires. Being some thirty feet below I was compelled to be a mere spectator, and seeing that the cunning snake was somewhat shy of acting his part before so unwelcome an audience as myself and my intelligent dog Pat, we concealed ourselves behind a clump of thick bushy wattles. Upon our retiring the serpent regained confidence, and, instantly creeping from his dark hiding-place, proceeded to entwine himself around a small branch of the tree; whereon firmly fixing himself, he uncoiled the upper half of his scaly pliant body, and commenced a series of the most graceful movements imaginable. The poor infatuated minas continued to scream, moan, and flutter round their insidious adversary, gradually drawing nearer and nearer, perching themselves within twelve or fifteen inches of him, with outstanding feathers and piteous cries; and panting as if at the last stage of life, they yielded one after another to the tender mercies and elastic swallow of the horrid reptile, which devoured them feathers and all until he could absolutely hold no more; but not the least exciting part of the scene was yet to come; for the wily mesmerist, though he could devise means to destroy other created things, had not the foresight to provide against the possibility of his own destruction: he had satisfied his appetite—had revelled in the death-pangs of his poor victims, but, cunning as he was, he proved his deficiency in military tactics. Wise generals always see their way clear for a safe retreat before proceeding on an enterprise: not so this outwitted adder; he had luxuriated to such a degree upon innocent minas that, when desirous of returning to his strong-hold, the small aperture through which he had so cleverly squeezed his yielding body, not being of the same elastic composition as his own, refused re-admittance to his now bloated and overgorged frame. After repeated trials, however, he became aware of his dilemma, and commenced his descent by entwining his nether extremity round the lowermost branches and twigs successively, until he had reached the last; then, swinging head downwards, apparently in a very undecided mood as to the propriety of casting himself to the hard ground underneath, he waved about for several minutes. In the meantime I had rapidly cut three or four good waddies (native throwing-sticks), and forthwith commenced a sharp fusillade at the vibrating foe. One lucky hit brought him down by a run, and in the next minute the flock of bereaved minas were deeply avenged."

Talking of antidotes for snake bites, and before giving the results of the experiments by Dr. Shortt (which experiments, I believe, are still going on), I may quote a letter which appeared anent the subject in the 'Pioneer' newspaper at Allahabad, in January, 1868:—

"Sir,—That there are more things in heaven and earth than are dreamed of in the philosophy of the 'Pioneer's' editorial 'We' is very evident from the introductory remarks to the article anent Tobacco and Snake Bites, in the issue of this morning. It is very possible that priests—even in Bolivia—may appropriate and smoke (or even chew!) more divine and sometimes less fragrant matter than the noted weed of the Yuracare Indians; but this does not in any way detract from the gravity of the statement put forward by M. J. Rambossa, in his 'Histoire des Plantes,' as the following facts may tend to prove:—In 1854 there was an old Mussulman snake-charmer at Cawnpore, who invariably used the remains of his hookal chillum as a remedy for the bites of poisonous snakes. The "eldest son" or "medicine man" of many of the Kaffir tribes in Southern Africa, at the present day, uses the tobacco-oil and pipe-scrapings of the oldest "clay" in camp, as the "sovereignest thing on earth" for the bite of the puff-adder. A notice appeared in 'Land and Water,' at least six months ago, detailing the method of using this remedy as practiced by the said Kaffirs. I believe I am correct in saying that Dr. Shortt, Superintendent of Vaccination, Madras, who is now conducting some most interesting and careful experiments with poisonous snakes, is aware of the above facts, and we may in time hear of the result of his labours. To those of your readers who are interested in the natural history of snakes in general, and cobras in particular, I would suggest the following experiments:—Catch, or have caught for you, a healthy cobra; open his mouth, and place therein a good pinch of well-pounded tobacco, moisten this with a drop or two of water or spirit, and let the snake go. The effect of the tobacco upon the nervous system of the snake will become evident before he has crawled a dozen yards; and if the dose is strong enough, the snake will shortly die from its effects. Married men or nervous batchelors may employ the old grey-bearded faquier, who wanders about cantonments with a bangly-load of snakes and scorpions to conduct this experiment for them: he lives at Russoolpore, on the Jumna bank; and handles cobras, in the full possession of their faculties, with the sublimest art and most supreme indifference.—Yours truly, HAL."

The following accounts of the "cobra experiments" by Dr. Shortt, before alluded to, has been extracted from the 'Athenæum and Daily News,' Madras, March 15, 1867:—

"A correspondent of the 'Athenæum and Daily News,' of Madras, sends a further account of some cobra experiments. He says as follows, in reply to the last paragraph of my letter of the 19th November last, which appeared in the 'Madras Times': —'G. Vans Agnew, Esq., at present officiating collector at Tanjore, kindly sent me a snake-stone to test, and through one of my assistants I obtained from Mr. Garde, of the Conservator of Forest Department, a piece of wood reputed to be a specific for the bite of the cobra; and the late Dr. J. W. Sherman told me, a long time ago, that indigo was in great repute as a snake remedy, and was generally used in America as a cure for the bite of the rattlesnake: I accordingly procured some. To test these, I arranged and obtained from the country, through the assistance of kind friends, some six full-grown cobras, the largest of which was five feet, and the smallest four feet two inches in length: these reptiles were quite fresh and vigorous, and I numbered them severally one to six. I also got together several Pariah dogs and chickens, and at 12 noon on Monday the 11th inst., in the presence of H. Cornish, Esq., T. Pritchard, Esq., Dr. H. E. Busteed, and Mr. L. W. Lincoln (my assistant), besides one or two other gentlemen and natives, comprising my own servants and those of some of my neighbours, the following experiments were conducted:—

"1. Cobra Nos. 1 and 2 were made to fight; and I was more successful on this occasion, as the snakes, on being brought together and teazed, readily and of their own accord attacked each other by grasping with open mouths, and seizing each other mouth to mouth repeatedly, the wounds so inflicted drawing blood: they also bit one another in other parts.

"2. No. 2 cobra was now seized, and made to bite a chicken to observe effect; the chicken was dead in thirty seconds, whilst no harm was done to the cobras themselves. Both these snakes were then laid aside.

"No. 3 was next turned out, and was made to bite the leg of a full-grown powerful Pariah dog (A), and the snake-stone was immediately applied to the wound. At first there appeared some difficulty in getting the stone to adhere, but subsequently it held on; notwithstanding which, the dog was dead in two hours and ten minutes.

"4. The same cobra (No. 3) was made to bite immediately a white dog (B); and although the snake grasped the leg of the dog no distinct wound was perceptible, nor was there any effect noticed.

"5. No. 3 was now laid aside and cobra No. 4 was turned out, and made to bite a full-grown dog (C): the snake-stone was applied and fully adhered to the wound, and continued to do so till the dog died.

In twelve minutes convulsions set in, and the animal was dead in eighteen minutes.

" 6. Dog D was now brought out: he was a large powerful animal, and the same snake (cobra No. 4) was made to bite him. This dog died six hours after.

" 7. This cobra was set aside, and No. 5 was next turned out and made to bite a chicken; and, notwithstanding the assiduous application of the snake-stone, the chicken was dead in five minutes.

" 8. A second chicken was bitten by the same snake, in which case the stem sent by Mr. Garde, being well ground, was applied to the wound, and some of it poured down its throat; notwithstanding which, the chicken was dead in forty-five minutes.

" 9. This snake was now laid aside, and cobra No. 6 brought out and made to bite the leg of a third chicken. Immediately after the wound was well scarified and indigo freely applied to it, and some poured down its throat; notwithstanding which, the chicken died in four minutes.

" 10. This snake was now made to bite a dog (E), and the stem was applied to the wound, and also given by the mouth. The dog was sick, and the wound greatly inflamed; but the animal died the next day, some thirty hours after.

" 11. Snake No. 1 was now turned out and made to bite a dog (F), which died in five hours.

" I shall not trouble you here with a detail of the various symptoms which followed the bites of the snakes as exhibited by these several animals: those first bitten died rapidly, and the subsequent ones more slowly. From these experiments the remedies used seemed to be utterly worthless. No fairer trial could have been given to the snake-stone, to the application of which in every instance Dr. Busteed attended assiduously. I am not aware of the name of the stem sent by Mr. Garde; it looked like an ascleprade, and I should like to give it another trial ere deciding finally as to its antidotal properties. From the several experiments I have conducted I draw the following conclusions:—

" 1st. For the bite of the cobra to prove effective, it is necessary that the said cobra should have the opportunity of seizing the part it wounds, so as to grasp or close its jaws thereon to enable it to inject the poison into the wounds.

" 2nd. A simple wound sufficient to draw blood is frequently inflicted by the cobra striking at any animal, which it constantly does by means of its sharp and curved fangs, without at the same time being in a position to inject its poison into the wound so inflicted; and I greatly fear that it is in wounds of this description that the much vaunted specifics are reputed to have proved successful.

"3rd. The poison very soon becomes exhausted by frequent biting.

"4th. There is no truth in the virtue attributed to the snake-stone, for it has neither the power to absorb or otherwise neutralize the poison from the wound.

"The snake-stone is simply tested by its porous nature, which the natives of India ascertain by placing the stone in water: the fluid entering the small interstices expels the air contained within them, and which is seen to rise to the surface in minute bubbles, when, if it does so, the stone is said to be *alive*, and is valued as a specific; but when not porous, and the air-bubbles are not seen to rise, it is condemned as worthless. Although there is much risk and danger, besides expense, attending these experiments, still, in the cause of science, I shall be glad to have opportunities of testing several specimens of snake-stones, and deciding finally on their merits; and I shall be glad to obtain snake-stones and other reputed drugs for trial. I shall feel greatly obliged to any one interested in the subject for snake-stones or remedies said to be effective, which I will carefully test and report results, and return the stones or drugs if necessary. The adhesion of the snake-stone to the wound is readily accounted for by the adhesive properties of the blood, and, as I have since tested it, the same thing occurring on its application to any wound."

This detail elicited the following letter:—

"*Scinde.—Snake-Bites.*—(To the Editor of the 'Sindian.')—Sir,—I have read with interest the account of a series of experiments, conducted by Dr. Shortt, of Madras, which appeared in the 'Sindian' of the 27th; and as he has expressed a wish to obtain any further information on the subject of these bites and their cure, with a promise to test any remedies which may be considered effective, I have the pleasure to draw his attention to the castor-oil plant, which is said to be (with what truth I have never had an opportunity of trying) an infallible cure. The following is the formula:—Take a wine-glass full of the juice of the leaves, mix a small quantity of water with it, and give it to drink: in the meanwhile the part bitten is to be well rubbed with bruised leaves in front of a fire. Should vomiting not take place in ten minutes, half the quantity should be again given.

The first dose is said to almost invariably cause vomiting, when a dark green substance is thrown up, followed by instant relief. I have already said that I have never tried this remedy myself, but my informant expresses himself so confidently as to the result, that I have determined to do so on the first opportunity which offers; and I am very glad now in being able to draw the attention of one to the subject who will doubtless give it a fair trial. It must, however, be remembered that there are substances which will produce violent effects on animals but not on man, and *vice versâ*. For instance, the Areca (betel nut), pounded and boiled in milk, acts violently, and will expel worms from a dog, but it has not the slightest effect on man.

"With regard to the experiments and conclusions drawn by Dr. Shortt, I beg to offer a few remarks.

"1st. *For the bite of the cobra to prove effective, &c.*—Those natives who pretend to a knowledge of small bites and their cures go further than the doctor, and insist that no bite can be fatal unless the reptile turns upon its back in the act of inflicting the wound; in fact, whilst the jaws are closed on the part grasped. There is some superstitious idea attached to this movement on the part of the snake, but, setting that apart as absurd, the fact itself is quite possible for such a wound to be more rapidly fatal than a mere bite. In the spasmodic endeavour to relieve its fangs, the higher the wound the greater the effort; consequently the body is twisted round, and therefore the bags which contain the venom, and which are placed at the root of the fangs, are more forcibly pressed on, and thus a larger quantity is ejected into the orifices.

"These remarks include conclusion the 2nd; and I fully agree with Dr. Shortt that it is this class of partially inflicted wounds only which have been successfully treated by the application of snake-stones, indigo, &c., and which are not *bonâ fide* poisoned wounds.

"3rd. *The poison very soon becomes exhausted by frequent biting.*—There is no doubt but that this is the case. A dog bitten by a snake in a state of freedom will, as I have seen it, die in a few minutes, *i. e.*, from ten to twenty. The snakes with which the experiments were made by Dr. Shortt were brought from a distance, and if brought in together had every opportunity of fighting with each other, and thus expending their venom. But even were this not the case, and they had been kept separate, in securing them they most likely bit at anything within their reach; and if the substance were soft, such as cloth, the poison could have been ejected as easily as into a wound on man or beast. The best and most readily procured vessel wherein to keep a snake is a common earthen chutty, against the smooth sides of which they may dart their fangs, but without the poison being ejected and thus lost.

"4th. *There is no truth in the virtue attributed to the snake-stone.*—I fully concur in this opinion: I have seen numbers of these stones of every shade and colour, but have never heard of a cure being effected by the use of them; and I have heard the same thing from the mouth of a person competent to give an unbiassed opinion. When a cure is said to have been effected by these means, the patient and the operator are confederates and the snake a tame one, with, as a matter of course, its fangs extracted.

"Much has been written on snake-bites and their cure, but I am afraid that we are not nearer any antidotes than those in vogue in the days of Russel and others, who have fully studied the subject. These remedies were, and are, free excision of the part, the application of caustics, and the use of ammonia internally in any shape—Eau de Lua being perhaps the most convenient form. May not, however, the rapid death that occurs in some cases be attributed to the fangs having pierced a vein or artery, and thus have caused a quicker circulation of the venom through the system? I have heard of persons dying within half an hour of being bitten, and seen one who, being bitten at a distance of some five miles, yet walked in with assistance and died in the course of six or seven hours afterwards. The man was a snake-charmer, and had caught the animal two or three days before it bit him: he was confident that he would recover, having taken some nostrum of his own—with what result I have shown. The snake which caused this death was not of the usual colour of the Sind cobras, which are of a dull leaden hue: this one was light-coloured, approaching to yellow. The last I saw of the reptile was in a bottle, snugly stowed away in white liquor in the Kurrachee Museum, where it may be to this day."—X.

I will conclude this appendix with an account of some cases of treatment of snake-bite with ammonia, and Dr. Fayrer's exposure of some Indian remedies. The former bears date January 4th, 1869, and the latter February, 1869; together with Col. Shaver's experiments, which led to the latter.

"The value of Professor Halford's discovery for the treatment of snake-bite is every day becoming more apparent. To the case of Mr. John Brown, station-master at Elsternwick, alluded to in last month's summary, and who has since completely recovered from the effects of a bite inflicted by a large brown snake, there have been added many others. About a fortnight since a man named Philip Edwards, employed at Carngham, received a bite in the leg from a snake said to be five feet in length. The wound was immediately scarified and sucked. Dr. O'Grady having been sent for arrived soon afterwards, and proceeded to apply Professor Halford's remedy: the wound was allowed to breed freely, being at the same time bathed with *aqua ammoniæ:* a vein in the right arm was then opened, and a mixture of ammonia and water—one drachm of the former to two drachms and a half of the latter—injected; while small draughts of ammoniacal brandy-and-water were administered at intervals of half an hour: the patient was also kept walking, until from sheer fatigue he was incapable of further exertion. This treatment having been continued for four hours, the services of a galvanic battery were had recourse to, and a moderate current of electricity conveyed through the system: after two hours symptoms of returning animation were apparent, and in a short time the patient was able to walk about the room. A fit of stupor subsequently succeeded; but this passed off in a short time, and, at its termination, perfect consciousness ensued, and the man was so far recovered as to be pronounced out of danger. This treatment was found equally efficacious in another and very singular case, which occurred about a week ago: it was that of a young girl named Isabella Melross, residing at Smythes-dale, who, while drawing water from a hole, had been bitten by a carpet-snake in the extremity of the little finger of the right hand. Dr. Barnett was called in aud applied ammonia, somewhat similarly to the method pursued as above stated. The case was dangerous, owing, no doubt, to the tender age of the patient; but she was enabled to walk about the following day, the effect of the poison having been completely overcome. On the following day the same girl was again bitten by a snake of the same species: her mother at once acted as previously, by excising the wound, applying ammonia, and putting on a ligature. Dr. Barnett's services were called into requisition on this occasion also, and, despite the weakness of the patient and the aggravated effects of the second bite, he was enabled to restore the girl to consciousness and strength after a short time."

The above accounts are very vague, and the patients appear to have been walked about for many hours, which after all appears to be the most important point in such cases, although ammonia has been known for many years past as a valuable means for maintaining circulation when feeble.

" *Antidote for Snake-Poison, by Col. C. L. Shavers.*—A report being made to me that a woman living in a village adjoining the Residency had been bitten by a snake, and was dying, I sent for the Residency surgeon, and walked over myself at once, attended by a servant with brandy, in the hope of being able to afford assistance. On arriving at the scene of the accident, I found the woman seated on the ground outside the door of her hut, under a sort of improvised porch formed of branches and leaves, which the villagers had erected at the moment to afford the woman air, without exposure to the sun. She was suffering from a succession of swooning fits, having already had eight previously to my arrival, in the interval of about two hours since she was bitten. The marks of the bite were distinctly visible on her ankle. While waiting for the surgeon one of the swooning fits recurred: the method resorted to by two men who were treating her was what is known amongst natives by the term "Jharna phookna," or to exercise. I had never witnessed it before; it was a strange and painful spectacle. As soon as indications of the approaching swoon appeared, and the woman fell forward from her sitting position insensible, one of the two men seized her head across the forehead and temples with one hand, the other hand supporting the head behind, and then commenced shouting some 'muntras,' or charmed verses, into her ear, at the very top of his voice; the other man, seated on the other side, taking up the last note of each cadence, and prolonging it with an indescribable howl with his mouth close to her ear. After this had been continued for some minutes without any sign of returning consciousness, the man who was supporting the woman by the head commenced shaking her violently and slapping and raising her, vociferously, in apparent anger at her obstinacy: after some time this had the desired effect, as slowly, with convulsive gasps and other symptoms of distress, she came to herself. In the interval a man had arrived on the scene, who at once assumed—and was tacitly allowed by the bystanders to do so—the treatment of the case. He quietly put aside the charmers, reassured the woman and her relatives, with an air of perfect confidence as to the safety of her life, and pounding something on a stone he administered it to her. We then left, directing that a report of the progress of the woman's case should be made from time to time. In about two hours another swooning fit was reported—the previous ones having recurred at intervals of about a quarter of an hour. Subsequent reports announced her steady progress and complete recovery. That night she was kept forcibly awake, by the instructions of the man who had administered the antidote, as a precaution on account of the long time she had been under the influence of the snake-poison before he was called in.

"This case led me to make inquiries about the person who had treated it so successfully, and I sent for him: on questioning him as to the nature of the antidote he was very reserved at first, but, on my offering to take him into my service, he grew more communicative. He subsequently entered my service, and revealed to me the secret of his antidote, giving me some of his material. So confident was he in its efficacy, that he offered to allow himself to be bitten by any snake; but this was a test that it hardly required the fatal example of Mr. Drummond's case at Melbourne to place out of the question. To test the efficacy of the antidote, however, by experiments 'in corpore vili,' I sought the co-operation of Dr. Macbeth, who, I was aware, took great interest in the subject, and hence a series of experiments which are recorded in the 'Indian Medical Gazette.'

"On Oct. 2nd, 1868, a resident of Old Gwalior, a carpenter, came to the Residency in much apparent distress, to say that his wife had been bitten by a snake, and had become insensible from the effects: hearing, he added, that there was a person in my employ who could administer relief, he had come to seek it. I sent my servant back with him; he administered the antidote to the woman, which, as he reported on his return in the evening, had brought her round. The following morning I sent to inquire how the woman was; and desired that, if quite recovered, her husband (the carpenter) and she should appear at my office: they duly came the same day. The marks of the bite were distinctly visible on the woman's finger; but she had quite recovered from the effects of the poison: I had the man's deposition taken by my office munshire.

C. HORNE.

3, Bernard Villas,
Upper Norwood.

(To be continued.)

NOTICES OF NEW BOOKS.

'*The Birds of Sherwood Forest; with Notes on their Habits, Nesting, Migration, &c.*' By J. W. STERLAND. 244 pp. Letterpress; four coloured Lithograph Plates. London: Lovell, Reeve & Co., Henrietta Street. 1869.

Why of Sherwood Forest? not only is there no bird peculiar to Sherwood Forest, but there is not a single species, so far as I am aware, at all connected by fact or by tradition with that once celebrated resort of freebooters. Then why of Sherwood Forest? I can conceive no other reason than that the author lives in its vicinity: perhaps a sufficient reason: I will not dispute it. Still I think that before complying with the "wish" of his numerous readers "for the separate publication" of these pages,—for they have previously appeared in the columns of that excellent newspaper the 'Field,'—and before he had introduced such copious notes on the habits, nesting, migrations, &c., of birds generally, he should at least have informed himself more fully of what had previously been done under these most interesting heads. It will be admitted that Pennant, Latham, Bewick, Montagu, Selby, Meyer, Hewitson, Yarrell and Gould are the authors who have built up our bird lore into a respectable and permanent edifice, and yet this volume contains evidence that Mr. Sterland is totally unacquainted with all these authors excepting Montagu, and with him only through Rennie's edition! the name of Yarrell does certainly occur once,—I think once only,—and then he is cited second-hand, *viâ* Macgillivray, thus:—"In Macgillivray's account of this species [the crossbill] he quotes Yarrell's description of a young one that was taken when only just able to fly, the mandibles of which were quite straight, the under just shutting into the upper." I believe Yarrell expresses no opinion on the subject: the passage to which Mr. Sterland objects was written by Mr. Long, of Farnham, and is only quoted by Mr. Yarrell.

I will venture a second criticism. I entertain a decided opinion that no bird should be introduced into a local fauna unless the evidence of its presence was clear and decisive. Now a large number of Mr. Sterland's Birds are introduced on evidence that I cannot help regarding as unsatisfactory: let me give the first as a specimen.

The Golden Eagle at Sherwood.—"The lake was frozen over at the time, except in one place, where a flush of warm water entered from a culvert which drained the abbey. The place was covered with ducks, teal and wigeon; and I first saw his majesty [the golden eagle] swoop down once or twice to get one for his breakfast, but unsuccessfully, as the ducks saved themselves by diving or flying off. The park-keeper got two shots at him with ball on a tree, but missed him each time, and he gradually got wilder, so that he could never be approached again near enough for a shot."—*Mr. Tilling, of Welbeck, in a letter to the 'Field' of January 27th.*—p. 18.

The event is said to have taken place in 1838: the bird was not obtained: it appeared only to have been seen on the wing; and whether the species was ascertained by Mr. Tilling or the anonymous park-keeper is not stated, but it is scarcely credible that either could give more than the vaguest possible guess on the subject.

Again with the goshawk. "A single specimen was killed by one of the keepers near Rufford in 1848, being the only instance I have known of its occurrence."—p. 29. Whose keeper? Who named the bird? Where is the specimen preserved?

These observations and queries would apply with equal force in a number of other cases, but instead of dilating on them, which were an ungracious task, I will select from Mr. Sterland's volume those passages on habits and economy on which the author has bestowed such evident pains, and which I am sure, were he at my elbow, he would point out for quotation: all of them contain abundant internal evidence of the high estimation in which the author holds them.

The white owl hoots, but seldom screams: the tawny owl screeches, but rarely, if ever, hoots.—"With regard to the note of the white owl, I venture with diffidence to express an opinion which I am aware is contrary to that of most who have written of it; at the same time it is no theoretical fancy, but the result of close and continuous observation. It is generally stated that this species seldom hoots. Montagu boldly says, 'it is *never* known to hoot;' Macgillivray that 'it has no other note than a shriek;' and Mr. Waterton that 'the tawny owl is the only owl which hoots.' Similar assertions might so easily be multiplied that it seems almost like temerity to assert the contrary. A desire to elucidate the truth, however, compels me to do this, and I am glad to be supported by so high an authority as Sir W. Jardine, who, in a note to a late edition of 'White's Selborne,' says that the white owl does hoot, for he has shot it in the act—and more, that at night, when not alarmed, hooting is its general cry. This I can confirm most unhesitatingly, for I have heard it repeatedly and continuously do so; and, on the very account of the alleged infrequency, have taken particular pains to verify the fact. I have been familiar with both species from boyhood, and have roamed through our forest at all times of the evening, and it was always the tawny owl which we designated as the 'screech owl,' while the well-known 'hoo-hoo-hoo-hooo' was almost invariably uttered by the white owl. I have watched both in various situations, and have often been startled in the woods by the unexpected shriek of the brown owl, while by blowing into my closed hand I have imitated a hoot with such exactness as to cause the white owl to approach me very closely. A pair of the latter frequented a small field opposite to my house in the village; and on moonlight nights I have repeatedly and distinctly watched them while uttering their hoot, even within a few yards of the house. The result of my own careful and repeated observations may be thus summed up—that the white owl hoots chiefly, but sometimes, though very seldom, screams; while the tawny owl screeches, and rarely, if ever, hoots."—p. 43.

Each species of Shrike nests near Lee.—Writing of shrikes Mr. Sterland refers to Rennie in these words :—" Rennie relates, in his 'Architecture of Birds,' that a friend of his expressing his doubts," as to shrikes impaling insects, " he undertook for his own satisfaction, as well as his friend's, to endeavour to ascertain the fact, and he soon found within five miles of Lee half a dozen nests of each species."

The Black Redstart builds in quickset hedges by the side of the road near Ollerton.—" Those of my readers who possess the spirit of a naturalist, can easily imagine the pleasure which arises from a first acquaintance with a rare species which they have only read of or seen in a museum. Such will sympathize with me in my delight and surprise when I first met with the black redstart (*S. tithys*), and found it not only a visitor but actually breeding with us: my first acquaintance with it was the discovery, on May 17th, 1854, of a nest in a thorn hedge by the side of the road leading from Ollerton to Edwinstowe. It was placed about four feet and a half from the ground, and was constructed of dry bents, intermingled with a little moss, and lined with hair. When I found it, it contained four eggs; had it remained undisturbed, I have no doubt they would have been increased to the usual number of six, as the female was on the nest: as it was, I appropriated them as a valuable addition to my collection. This, however, was not a solitary instance, for two years later, on May 13th, 1856, another nest was taken from the same hedge, near the place from which I had taken the previous one: it contained one egg, which was brought by the finder to me. A third nest was taken the next day at Ollerton: it was placed inside of a cattle hovel, amongst the thorns with which the upright frame-work was interlaced, and was constructed of dry grass only, and lined, as were the others, with hair: the second nest had moss mixed with the grass, like the first."—p. 67.

The chaffinch builds on the top of posts when sawn off perfectly smooth, and fastens its nest there with saliva.—"I have sometimes been led to believe that, in addition to the weaving and felting, by which the wool and moss and other materials are wrought together, the chaffinch uses its saliva for the purpose of increasing the firmness of its work. I have seen some of their nests, which certainly appeared on removal to have been attached to the branches of trees by other means than the mere weaving of the materials around them. I was first impressed with this idea by finding a nest on the top of a post in my own garden: the post formed part of an open fence, on either side of which currant trees were placed; it was of split oak, and the top having been sawn off the surface was perfectly smooth, and nearly, though not quite, level. On this platform of six inches by four, without a splinter or projection of any kind to afford an attachment, I found in the middle of May a chaffinch's nest. It was such an exquisitely wrought specimen that I was tempted to remove it for my cabinet, and was astonished at the tenacity with which it adhered to the post. The body of the nest was formed of wool, and lined with reddish cow's hair and two or three feathers; on the outside the wool was incorporated with green moss, and studded all over with green and white lichens similar to those on the rails of the fence: these lichens were more numerous towards the base, forming a sort of lip, and adhering to the surface of the post, on which there were no lichens growing naturally: finding it cling so closely I used great caution in its removal, and am quite convinced that its adhesion was effected by means of some glutinous substance,—most probably, as I have said, the saliva of the bird itself."—p. 101.

The siskin is one of those agreeable little birds of which we only get a glance now and then under very adverse circumstances; they are occasionally "caught and caged and starved to death" by the London birdcatchers. One of the long cages used by these gentlemen on their Sunday excursions is a sad and sorry spectacle on a Monday morning. The survivors, with a restless anxiety to escape, are seen trampling on the dead and dying with a heedlessness that makes one's heart ache. To turn from such a scene to Mr. Sterland's description of the species in a state of nature is a refreshing and soothing change: here it is:—

The Siskin.—"It was in the first week in January, 1848, that I saw a large flock of sixty or seventy, who were busily occupied in extracting the seeds from the berries of a group of alders in Rufford Park. I was riding near the trees when my attention was attracted by the birds rising from them: the action was a most singular one, for so simultaneous was the flight of the flock, and so exactly alike was the movement of each individual composing it, that it was just as if all were regulated by one will instead of many. In this compact phalanx they wheeled about for a few turns, uttering at the same time a shrill twitter, and again alighted on the trees and commenced feeding, suffering me to approach within half a dozen yards of them; and at this distance I watched them carefully with extreme pleasure. While engaged in picking the seeds from the alder berries, they clung in every imaginable or unimaginable position, exactly like the blue titmice, of which they strongly reminded me, and, like that species, hanging with the back downwards as often as otherwise. After observing them for some time, I roused them from their employment with a stone, being curious to witness again their beautiful evolutions, which were performed exactly as before: they did not seem at all alarmed at my interference, but again descended *en masse* and recommenced their occupation."—p. 118.

It is always with unmixed satisfaction that I read any plea for the bird against his ruthless destroyer, man. Taking an isolated case, and watching a well-to-do liberal-minded and generally humane man, seeing him load his gun morning after morning throughout the summer, and walking leisurely round his garden looking out for some little bird to kill, under the idea that it might steal a gooseberry or a currant, one really would be apt to think that he was exhibiting symptoms of incipient insanity; but in England this is so commonly the case that it passes, not only without any expression of disapprobation, but is considered "respectable" and "English"—two words that cover almost the whole of our transgressions.

Rooks.—"In some parts of the country the agriculturists are not so conversant with the habits of the rook, and I know that in one locality in an eastern county a large rookery was destroyed under the belief of the farmers that its inhabitants were hostile to their interests and consumed a large quantity of corn. But mark the result. Two years passed away, and the farmers congratulated themselves on being rid of their winged foes, little thinking that they had other foes in their place whose approach was more difficult to detect. In the second year many fields of wheat suffered from wire-worm; but in the third their ravages had become so general throughout the district as to occasion serious alarm. Little could be done to suppress their numbers until the rooks were again thought of, and the evil was traced to its source. The rookery was permitted to be re-established by the return of many who had escaped the massacre, and who still cherished a partiality for their native trees, but who had hitherto been continually driven off: their rapidly increasing numbers soon reduced the insect pest, leading the farmers to acknowledge the error into which they had fallen, and henceforth to look upon the rook as a friend instead of an enemy."—p. 134.

The green woodpecker is an especial favourite of mine: as regards colour he is the most beautiful of British birds, and he is a faithful friend to the proprietor of forestry by his incessant efforts to alleviate the plague of carpenter caterpillars, and the mysterious jarring noise he makes during his researches with this object are too familiar to need description. Mr. Sterland has discovered another and very different sound which this bird produces; and has detected the exact manner in which the feat is performed. I will quote the passage.

The Green Woodpecker.—"I have remarked previously that nearly all the old oaks in the forest have suffered the loss of their tops by the agency of wind and lightning, aided by natural decay. Sometimes you may see the upper portion of one of these venerable trunks quite denuded of its bark, and riven with many fissures, though the tree is all the while in vigorous growth. On some of these I have often noticed the green woodpecker practise a singular feat. Placing its bill in one of the long cracks I have mentioned, it produces, by an exceedingly rapid vibratory motion, a loud crashing noise, as if the tree was violently rent from top to bottom. I have heard it when the sound was so loud and sudden that the woods rang again. For a long time I was at a loss to know how it was produced, but I one day witnessed the process, and have seen it several times since: it would effectually rouse up all the insects, for it seemed as if the tree quivered from top to bottom."—p. 144.

Mr. Sterland disposes of the Baldamus theory about cuckoo's eggs in what may be called a very jaunty manner. "I believe that what Dr. Baldamus supposed were cuckoo's eggs were only abnormally large ones of the birds in whose nests they were found, and this variation in size is well known to every oologist and every birdsnesting school-boy."—p. 154. Thus it will be observed that the very ground on which the theory stands is cut away; and yet no one ever took such pains to elucidate, explain and enforce the reception of a theory as poor Baldamus—it was with him a life-study. His vast collection of eggs had been repeatedly examined by the very men who ought to have detected the mistake, and they did not: in fact, he says "Many of these eggs, evidently so widely differing, have long been known as cuckoo's eggs to our great ornithologists and oologists, such as Naumann, Thienemann, Brehm, Gloger, Von Homeyer, Degland, &c." *Zool.* S.S. 1147. Thienemann, perhaps the highest authority of all, was completely taken in by them: he accepts them without hesitation as the eggs of the cuckoo, and says, at page 84 of his invaluable work, "So much do many of these resemble the eggs of the wagtail, the tree pipit, the field lark, and the great sedge warbler, that they can only be distinguished from them by the distinctive spots and the grain." No men ever gave such unremitting attention to a subject as these German naturalists to this question of the cuckoo; day after day, year after year, they devoted themselves to the inquiry. The return of the cuckoo in the spring was hailed with delight as the signal for renewed observation. But Mr. Sterland has other observations on the cuckoo, which I must extract.

The female Cuckoo cries, and "sucks little birds' eggs to make its voice clear."—"Some have supposed that the cry of the cuckoo is only uttered by the male bird, but this has been denied by many others; I disbelieve it myself, for I have positive proof that the note is uttered by both sexes, from having shot the female when thus engaged. I have met with undeniable proof of its egg-sucking propensities, for a friend of mine shot one in a garden a short distance from my own, his attention having been drawn to it by the well-known cry. As he went into the garden the bird rose from the foot of the hedge, and was immediately brought down; when he picked it up it was not quite dead, and, as he held it, it laid an egg in his hand, thus being another instance of the female uttering the cry. The bill of this bird was covered with yolk of egg, which was also spread over the feathers at the base. On proceeding to the spot from which it rose, the cause of this was at once seen; for there was the nest of a pied wagtail with all the eggs broken. It seemed as if the cuckoo had greedily plunged her bill amongst them, and thus smeared the yolk over the feathers of her face."—p. 157.

Arrival of the Cuckoo in February.—"The earliest arrival of the cuckoo I have noticed was on February 16th, 1849: the weather was particularly fine and sunny for the time of year, and the cry at that unusual season attracted the attention of a number of persons. It was heard for half an hour on that day, but not subsequently."—p. 158.

In closing the book, and I have read every word of it, I find myself compelled to retain the impression it first made on me—first impressions are generally the best—that the author had better read more and write less. I can readily imagine that he will promptly retaliate by saying that we have already abundance of author's copying from one another, and questionable statements repeated *ad nauseam;* that we want new and truthful observation; that the subject is not exhausted; and that, instead of a constant consultation with books, we should appeal directly to Nature and learn of her. This line of argument is irresistible, unanswerable; but is it all-sufficient? A man may possibly, also, imbibe from Nature truthful views of religion, but I would recommend him also to read his Bible and his Testament before he announced those views, and to read them with the deepest attention and with a determination to learn and to profit by them. Good books on all subjects teach the reader "how to observe." Original observations are invaluable if made and recorded in this knowledge. Now I confess to feeling insuperable doubts as to Mr. Sterland's decision on the hooting of owls; as to the shrikes (I admit this is copied) nesting at Lee; as to the black redstart nesting in hedges; as to the chaffinch building on the tops of posts and sticking the nest to the post with saliva; as to the female cuckoo crying "cuckoo," or sucking the eggs of little birds, or arriving amongst us in February. I think that had Mr. Sterland carefully read and deliberately considered all that has been written on these subjects, and then carried the hints and ideas thus acquired into the lanes and woods and forests, he would have scarcely written what he has; and in the particular case of the shrikes he would scarcely have copied what he has: I cannot but believe that he might readily convince himself that these matters are not exactly as he has stated them, and yet I do not for a moment doubt that he has written them in good faith.

EDWARD NEWMAN.

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Twenty-two communications stand over: all of them of very recent date.

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